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# Air filters for medical infusion and transfusion equipments - Part 1: Aerosol bacterial retention test method

输液、输血器具用空气过滤器

第 1 部分：气溶胶细菌截留试验方法

(English Translation)

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# Air filters for medical infusion and transfusion equipments -
# Part 1: Aerosol bacterial retention test method

## 1 Scope

The test method specified in this part of YY/T 1551 is applicable to evaluating the bacterial retention capacity of finished air filters for medical infusion and transfusion equipment.

This part may be referred to during evaluation of bacterial retention capacity of air filter membrane materials used in medical infusion and transfusion equipment.

This test should be conducted by trained testers in a biosafety laboratory.

## 2 Test system

### 2.1 General

The schematic diagram of the test apparatus is shown in Figure 1. The test apparatus consists of six branches, of which five are used for sample testing and one is used for positive control. It is mainly composed of an aerosol generator, an aerosol chamber, sample challenge assemblies, liquid impact samplers, and a suction system. The test apparatus, bacterial challenge suspension, collection fluid, etc., together constitute the aerosol bacterial retention test system.

The bacterial challenge suspension of a specific concentration is aerosolized by the aerosol generator, and then the resulting bacterial aerosol is sprayed into the aerosol chamber. The negative pressure suction system allows the air filter under test in the sample challenge assembly to be challenged with the bacterial aerosol at a specified flow rate. The bacteria penetrating the sample are then collected using a liquid impact sampler filled with collection fluid, and the collection fluid is analyzed for bacterial counts to evaluate the aerosol bacterial retention capacity of the air filter under test.

### 2.2 Aerosol generator

The aerosol generator aerosolizes the bacterial challenge suspension to produce aerosol particles with a mean particle size (MPS) of approximately 3.0$\mu$m.



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